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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,777	12/01/2000	Hitoshi Sato	Y-176	8078

7590 03/20/2002

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EXAMINER

MOUTTET, BLAISE L

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 03/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	09/701,777		SATO, HITOSHI	
	Examiner		Art Unit	
	Blaise L Mouttet		2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following minor informality in syntax:

In claim 4, line 3, "no change is the data pattern" should read --no change is made in the data pattern--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 5, 7, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al. US 5,731,823.

Miller et al. discloses, regarding claim 1, an ink jet recording method comprising:
converting vector data to raster data (step 60 as shown in figure 3A);
before converting vector data to raster data, checking by an interpreter (30, column 4, lines 42-45) whether the data pattern (56) indicates solid-drawing in a thick line or filled in area for which drawing is indicated (step 80, column 6, lines 27-36); and
if the data pattern specified to a particular thick line or filled in area indicates solid-drawing, changing the data pattern for that particular thick line or filled in area to a

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lower-density pattern thereby preventing ink splash during printing (column 9, line 53 - column 10, line 6).

Miller et al. discloses, regarding claim 7, an ink jet recording device comprising:
an interpreter (30) for analyzing a command and data which indicate a drawing of
a thick line or filled in area (column 4, lines 42-45, column 6, lines 27-36);

means for converting vector data of the thick line or filled in area into raster data
based on the given data pattern after analysis by the interpreter (inherent from step 60
as shown in figure 3A); and

a recording head (20, 22) for ejecting ink droplets, based on the raster data,
while moving over a recording medium (15) with a plurality of ink ejection nozzles
arranged thereon (column 3, lines 1-17),

wherein said interpreter includes a pattern changing means for checking whether
the data pattern indicates solid drawing in each of the thick line or the filled in area for
which the drawing is indicated and, if the solid-drawing is indicated, changing the data
pattern for the thick line or filled in area to a lower density pattern (column 9, line 53 -
column 10, line 6).

Regarding claims 4 and 10, see column 9, lines 59-66.

Regarding claims 5 and 11, see column 6, lines 40-45.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. US 5,731,823 in view of Rylander US 5,602,572.

Miller et al. disclose that the input data is changed by halftoning techniques (figure 3, steps 104, 124).

Miller et al. fails to disclose that this halftoning is performed using a predetermined mask pattern.

Rylander discloses using mask patterns (figure 1, figures 7-9) to perform halftoning.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a predetermined print mask as shown by Rylander in the apparatus and method of Miller et al.

The motivation for doing so would have been that Miller et al. discloses that using printmasks is an art-recognized equivalent method to perform the halftoning as disclosed by Rylander and using the printmasks of Rylander allows for a wide range of shade value while avoiding overinking as taught by column 2, lines 29-34 of Rylander.

4. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. US 5,731,823 in view of Rylander US 5,602,572, as applied to claims 2 and 8, and further in view of Mizutani US 5,774,146.

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Miller et al. in view of Mizutani fail to disclose fail to disclose choosing from a plurality of mask patterns the mask pattern appropriate to the recording medium.

Mizutani discloses choosing from a plurality of mask patterns the mask pattern appropriate to the recording medium in a printing device (column 5, lines 8-17, abstract).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose from a plurality of mask patterns the mask pattern appropriate to the recording medium as taught by Mizutani in the apparatus and method of Miller et al. in view of Rylander.

The motivation for doing so would have been in order to properly compensate for ink permeation into the recording medium by adjusting the printmask as taught by column 2, lines 4-18 and column 5, lines 8-16 of Mizutani so that a proper image can be formed.

5. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. US 5,731,823 in view of Albosta et al. US 4,908,638.

Miller et al. fails to disclose printing in a single-pass method in which one band corresponding to a width of the recording head is formed on the recording medium in one movement.

Albosta et al. teaches of an inkjet printhead that prints in a single pass mode (column 4, lines 12-14).

It would have been obvious for a person of ordinary skill in the art at the time the invention was made to print in a single pass mode with the inkjet printhead in the apparatus and method of Miller et al.

The motivation for doing so would have been in order to achieve high speed printing as taught by column 4, lines 12-14 of Albosta et al.

Response to Arguments

6. Applicant's arguments filed February 25, 2002 have been fully considered but they are not persuasive.

The applicant has argued that

a) Miller et al. fails to disclose whether the data pattern indicates solid drawing in each of the thick line or the filled in area as claimed by applicant.

b) Miller et al. fails to disclose that if the data pattern indicates solid drawing, changing the data pattern to a lower density pattern to prevent ink splash as claimed by applicant.

c) Applicant's invention changes the data pattern to a lower density data pattern without the necessity of using a multipass print mode which reduces printing speed.

Regarding applicant's first two points the examiner points out that in column 6, lines 27-36 Miller et al. specifically cites "size, border color, fill color and line thickness" as characteristics of objects to be printed and teaches in column 9, lines 53 - column 10, line 6 that if the density of the objects to be printed is too large (i.e. "solid drawing") the density of the data pattern is reduced (column 9, line 66 - column 10, line 2).

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Regarding applicant's third point the examiner concedes that Miller et al., taken alone, fails to teach changing the data pattern to a lower density data pattern **while the recording head is operated in a single pass recording mode**. However this feature of applicant's invention is not currently claimed. While claims 6 and 12 include the limitation of a single pass recording mode there is currently no connection claimed between the steps of changing the data pattern to a lower density data pattern and the implementation of a single pass recording method since these two steps, as currently claimed, may be performed at different times.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet whose telephone number is (703) 305-3007. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow, Jr. Art Unit 2853, can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet March 13, 2002

Bm 3/13/02


John Barlow
Supervisory Patent Examiner
Technology Center 2800